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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,155	03/23/2004	Takashi Hasebe	02860.0784	1952

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

LIANG, LEONARD S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/806,155	<b>Applicant(s)</b> HASEBE ET AL.	
	<b>Examiner</b> Leonard S. Liang	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-5 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawing corrections were received on 07/05/06. These drawings are acceptable. The previous objection to the drawings will now be withdrawn.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 is dependent on claim 1. In claim 3, the claim states that the first printing device includes the plurality of color printing heads and the second printing device includes the plurality of black printing heads. However, this contradicts independent claim 1 where it states that the first printing device includes a plurality of black heads and the second printing device includes a plurality of color printing heads. It seems like the applicant is trying to combine two mutually exclusive species into one claim, but that doesn't make sense. The examiner recommends that the applicant make claim 3 into an independent claim. However, the applicant should be aware that if claim 3 is made into an independent claim, it would represent a mutually exclusive species from the species disclosed in claim 1. A restriction/election requirement would then be proper.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgavi (US Pat 6562413) in view of Mills et al (US Pat 7073901).

Morgavi discloses:

- {claim 1} An image printing apparatus (figure 2, 5); a conveyance-printing section for printing on a recording medium sheet (figure 2, reference 20; figure 5, reference 68); a first printing device mounted above the conveyance-printing section and aligned perpendicular to a conveyance direction of the recording medium sheet for jetting image-setting black ink drops onto the recording medium sheet for printing (figure 1, reference 21; column 2, lines 2-5); a second printing device mounted above the conveyance-printing section and aligned perpendicular to the conveyance direction of the recording medium sheet for jetting image-setting cyan, magenta, and yellow color ink drops, respectively, onto the recording medium sheet for printing (figure 2, reference 22-24; column 1, lines 60-61); the second printing device arranged downstream from the first printing device with respect to the conveyance direction of the recording medium sheet (figure 2); a first light radiating device, mounted above the conveyance-printing section and arranged downstream from the first printing device and upstream from the second printing device with respect to the conveyance

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direction of the recording medium sheet, for radiating ultraviolet rays to harden surfaces of the image-setting black ink drops jetted from the first printing device before the image-setting color ink drops are jetted from the second printing device (figure 2, reference 25); a second light radiating device, mounted above the conveyance-printing section and arranged downstream from the second printing device with respect to the conveyance direction of the recording medium, for radiating the ultraviolet rays to harden surfaces of the image-setting cyan, magenta, and yellow color ink drops jetted from the second printing device, and to completely harden the image-setting black ink drops previously jetted from the first printing device (figure 2, reference 28; figure 5, reference 70)

Morgavi differs from the claimed invention in that it does not explicitly disclose:

- {claim 1} a first printing device, including a plurality of black printing heads (even though Morgavi does disclose that the individual reservoirs are accompanied by a line of ejection nozzles; column 2, lines 2-6); a second printing device, including a plurality of color printing heads
- {claim 4} wherein energy of the ultraviolet rays radiated from the second light radiating device is greater than energy of the ultraviolet rays radiated from the first light radiating device.

Morgavi additionally discloses, with respect to claim 4, colored dots formed by three or four ink elementary dots or primary colors of black (column 6, lines 20-22); modulating ray intensity based on ink volume (column 6, lines 33-45).

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Mills et al discloses, with respect to claim 1, a plurality of black and colored printing heads lumped together in a single unit (figure 2A).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Mills et al into the invention of Morgavi. The motivation for the skilled artisan in doing so is to gain the benefit of being able to eject the ink in scan patterns rather than with a single page-width array. The differences between scanning printheads and page-width arrays are well known to one of ordinary skill in the art.

With respect to claim 4, it is naturally suggested that the color ink drops, being formed of multiple drops of elementary dots or primary colors of black, will occupy a greater volume of ink than just the regular black ink drops. As such, it is also naturally suggested that the radiating device will be modulated to a higher degree of intensity for the color drops than for the black drops.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3-5 have been considered but are moot in view of the new ground(s) of rejection. The applicant will note that even though Morgavi is still the primary art cited, the examiner's interpretation of Morgavi is slightly different than before. Now, the examiner interprets reservoirs 22-24 to comprise a single printing device with UV lamp 28 comprising the second light radiating device. Even though lamps 26-27 still provide radiation for the ink from reservoirs 22 and 23, UV lamp 28 provides radiation for every color of ink. Therefore, giving the claims its broadest reasonable interpretation, UV lamp 28 can be read to radiate the ultraviolet rays to harden surfaces of the

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image-setting cyan, magenta, and yellow color ink drops jetted from the second printing device and to completely harden the image-setting black ink drops previously jetted from the first printing device. Furthermore, the examiner would like to direct the applicant's attention to figure 5, where three ink generator arrays 100, 110, 120 are followed by a curing mechanism 70. It would be obvious to replace the notion in figure 2 of three color reservoirs followed by a curing mechanism after each reservoir with the notion in figure 5 of having just one curing mechanism that follows all three reservoirs. This would overcome the applicant's concern of consuming exorbitant amounts of electrical energy. However, this combination was not formally made above because figure 2, in itself, is considered by the examiner to read on the claimed invention. The applicant's argument of over-expenditure of energy, while legitimate, does not change the fact that figure 2, given its broadest reasonable interpretation, serves to read on the claimed invention when combined with the invention of Mills et al, as shown above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

09/02/06

LSL

  
**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**